Remarks/Arguments:

Claims 1-18 are pending in the present application. In the Office Action dated May 4, 2005, the Examiner has rejected all claims as follows:

Claims 1-4, 6-10, 12-16, and 18 are rejected as anticipated under 35 USC 102(e) by Yun (US Pat. No. 6,463,295);

Claims 5, 11 and 17 are rejected as obvious under 35 USC 103(a) over Yun in view of ordinary skill in the art.

Claims 1, 7 and 13 are independent. Claim 1 is amended to replace the generic term "system resource" with the more particular term "spreading code". Further, each of claim 1, 7 and 13 are amended to more clearly recite that it is the spreading code that is determined to have the minimum output power. This change draws unambiguous support from the written description at page 18, lines 28-32; page 20, lines 1-11; the equation of Figure 6G; and preceding clauses in each of the subject claims (e.g., "determining the output power that is correlated with each of a plurality of spreading code sequences").

In light of the Examiner's detailed remarks therein, the Office Action appears to have improperly characterized an aspect of the invention as determining a specific subscriber station that has a minimum output power, and assigning a spreading code (or system resource) to that specific subscriber station. This is incorrect, as a reading of the above passages at pages 18 and 20 of the written description make clear. Briefly, according to one aspect of the invention, a signal from a current subscriber station, received at various elements of the base station antenna array, is used to estimate that individual current subscriber station's spatial signature vector SSV (claims 1, 7, 13). The output power for various spreading codes that MAY be assigned to that current subscriber station is then determined by setting the SSV as a weight vector (a spreading code in claim 1, plurality of spreading codes in claims 7 and 13). The base station may determine such an output power for any number of possible spreading codes, even codes concurrently in use with a different subscriber within the same cell (see page 9, lines 3-7 and 15-16). One of those spreading codes will exhibit a minimum output power, and it is that spreading code which the base station assigns to the current subscriber station (claims 1, 7, 13). The determination of minimum output power is valid only for that current subscriber station, because the

determination (of the one or plurality of codes) was made using the estimated SSV (weight vector) that is valid only for the individual current subscriber.

While the amendment to each of the independent claims that re-orders clauses in the last recited element does add clarity to the amended claim element, it is not a clarification mandated under 35 USC 112 because other non-amended elements of those same claims make its meaning sufficiently clear under 35 USC 112. Therefore, all equivalents should remain available. Specifically, originally filed claim 1 recites "determining the output power that is correlated with a system resource to be assigned", which directly relates "the minimum output power" in the amended claim element to the system resource, not to the subscriber station. [That the term "system resource" is changed to "spreading code" relates only to that term, and not to a distinction resulting from re-ordering clauses in a claim element.] Similarly, each of claims 7 and 13 recites "determining the output power that is correlated with each of a plurality of spreading code sequences" prior to the amended claim element that assigns the spreading code.

Yun is not seen to assign a spreading code based on a determination of that code's output power level, as in each independent claim. The Office Action recites that it teaches such at col. 6, lines 33-36 and col. 2, lines 22-23, where resources correlate to codes in CDMA. The passage at col. 6 recites setting up an initial power assignment for a particular transmitter, and is silent as to any correlation between spreading code and power. The passage at col. 2 merely recites that a CDMA "conventional channel" (quotes in original) may be assigned to more than one subscriber station. The claims recite a specific approach, which neither excludes nor mandates code re-use, whereby spreading code power is determined and an assignment of spreading code is made based on that power determination.

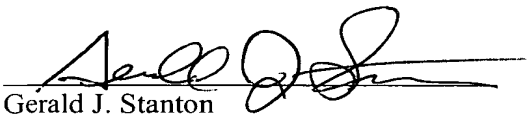
Yun is not seen to disclose even that different spreading codes exhibit different output powers. This is seen as at least a necessary prerequisite in a reference asserted to anticipate any of the independent claims. Changing the power of a subscriber's signal is seen to be embodied in the combination of variable attenuator 173 and power amplifier 175 of Yun's Figure 1, whereby a variable gain may be applied to a signal prior to transmission to achieve the power as directed by the base station. No drawing of Yun is seen to include what may be considered a spreader or a correlator for use with spreading codes. Yun is directed to

ongoing and initial power control (col. 5, lines 22-41) for TDMA and FDMA systems, with scant detail given for CDMA systems (col. 19, lines 49-50). In contradistinction, the present invention is directed, at least in part, toward increasing system capacity (page 1, line 26-27), and happens to use a determined output power measure of a spreading code to assign a spreading code to a subscriber station. The present invention enhances capacity where spreading codes are re-used in a cell. The objects of Yun and the present invention are quite different, and the pending claims are seen to patentably distinguish over Yun.

In light of the above, claims 4, 10, and 16 also patentably distinguish over Yun of their own accord, because they specifically recite how the output power of a spreading code is determined, a subject on which Yun is silent. Further, criticality of the ranges recited in claims 5, 11 and 17 is illustrated at Figure 11 when viewed in light of page 16 lines 9-15 and page 21 lines 28-36. Therefore, claims 5, 11 and 17 are deemed non-obvious over Yun in view of ordinary skill in the art, because the claimed number of samples is shown to be critical (and therefore beyond ordinary skill) and it is not disclosed, taught, or suggested by Yun. All other claims depend from claims 1, 7 or 13, and should be allowable at least for that reason.

The Applicant respectfully requests that the Examiner review the cited art and rejections in light of the above remarks, and pass each of claims 1-18 to issue. The undersigned representative welcomes the opportunity to resolve any matters that may remain, formal or otherwise, via teleconference at the Examiner's discretion.

Respectfully submitted:



July 27, 2005
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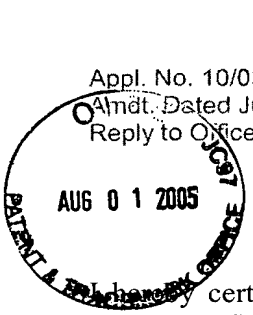

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